

Appl. No. : 09/931,271
Filed : August 16, 2001

AMENDMENTS TO THE CLAIMS

CLAIMS:

1. (Currently Amended) An array composition comprising:
 - (a) a rigid support;
 - (b) a molded layer with at least a first assay location comprising discrete sites, wherein said molded layer is adhered to said rigid support;
 - (c) a an adhesive layer disposed between ~~of bonding agent adhering~~ said rigid support ~~and~~ to said molded layer; and
 - (d) a population of microspheres comprising at least a first and a second subpopulation, wherein said first subpopulation comprises a first bioactive agent and said second subpopulation comprises a second bioactive agent wherein said microspheres are randomly distributed on said sites.
2. (Original) An array composition according to claim 1, wherein said sites are separated by a distance of at least about 5 μm .
3. (Original) An array composition according to claim 1, wherein said sites are separated by a distance of at most about 100 μm .
4. (Original) An array composition according to claim 1, wherein said rigid support is formatted to the dimensions of a microscope slide.
5. (Original) An array composition according to claim 1, wherein said molded layer comprises at least a second assay location comprising discrete sites.
6. (Original) An array composition according to claim 5, wherein said first and second assay locations are separated by a fluid barrier.
7. (Original) An array composition according to claim 6, wherein said fluid barrier is a physical fluid barrier.
8. (Original) An array composition according to claim 7, wherein said physical fluid barrier comprises a material that is added to said molded layer.
9. (Original) An array composition according to claim 8, wherein said molded layer comprises said physical fluid barrier.

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10. (Original) An array composition according to claim 6, wherein said fluid barrier comprises a physico-chemical surface coating.

11. (Original) An array composition according to claim 1, wherein said first and second bioactive agents comprise nucleic acids.

12. (Original) An array composition according to claim 1, wherein said first and second bioactive agents comprise proteins.

13. (Cancelled)

14. (Cancelled)

15. (Currently Amended) A method for making an array composition containing at least a first assay location having discrete sites comprising the steps of:

(a) contacting a surface of a template structure, said surface comprising one or more sets of projections, with a moldable material;

(b) removing said moldable material from said surface of said template structure, whereby said removed moldable material forms a molded layer with at least a first assay location comprising discrete sites;

(c) applying a layer of adhesive to adhere ~~adhering~~ said molded layer to a rigid support in order to maintain the molded layer in a planar configuration; and

(d) randomly distributing microspheres on said molded layer such that individual discrete sites comprise microspheres, wherein said microspheres comprise at least a first and a second subpopulation, wherein said first subpopulation comprises a first bioactive agent and said second subpopulation comprises a second bioactive agent.

16. (Original) The method according to claim 15, wherein the projections in said one or more sets of projections are separated by a distance of at least about 5 μm .

17. (Original) The method according to claim 15, wherein the projections in said one or more sets of projections are separated by a distance of at most about 100 μm .

18. (Previously Presented) The method according to claim 15, wherein said template structure is cylindrical, and steps (a) and (b) are carried out by a continuous process of rolling said cylindrical template structure wherein at a first portion of the cylinder, the cylinder is contacted with a moldable material and at a second portion of the cylinder, solidified moldable material is removed from the cylinder as a molded layer.

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19. (Original) The method according to claim 15, wherein said molded layer is flexible.

20. (Previously Presented) The method according to claim 19, wherein prior to step (c), said flexible molded layer is stored in rolled form.

21. (Original) The method according to claim 15, wherein said molded layer comprises at least a second assay location comprising discrete sites.

22. (Original) The method according to claim 21, wherein said first and second assay locations are separated by a fluid barrier.

23. (Original) The method according to claim 21, further comprising the step of adding a fluid barrier to said molded layer, which fluid barrier separates said first and second assay locations.

24. (Original) The method according to claim 15, wherein said rigid support is formatted to at least one dimension of a microscope slide.

25. (Original) The method according to claim 15, further comprising a step of applying a releasing agent to said surface of said template structure prior to said contacting step.

26. (Original) The method according to claim 15, further comprising the step of coating the back surface of said molded layer with an adhering agent.

27. (New) An array composition comprising:

(a) a molded layer having an upper surface and a planar lower surface, wherein said upper surface comprises a first assay location comprising discrete sites configured to hold microspheres;

(b) a rigid support adhered to said planar lower surface and adapted to maintain said molded layer in a planar configuration; and

(c) a population of microspheres comprising at least a first and a second subpopulation, wherein said first subpopulation comprises a first bioactive agent and said second subpopulation comprises a second bioactive agent, and wherein said microspheres are randomly distributed on said sites.

28. (New) An array composition according to claim 27, wherein said sites are separated by a distance of at least about 5 μm .

29. (New) An array composition according to claim 27, wherein said sites are separated by a distance of at most about 100 μm .

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30. (New) An array composition according to claim 27, wherein said molded layer comprises at least a second assay location comprising discrete sites.

31. (New) An array composition according to claim 30, wherein said first and second assay locations are separated by a fluid barrier.

32. (New) An array composition according to claim 31, wherein said fluid barrier is a physical fluid barrier.

33. (New) An array composition according to claim 32, wherein said physical fluid barrier comprises a material that is added to said molded layer.

34. (New) An array composition according to claim 33, wherein said molded layer comprises said physical fluid barrier.

35. (New) An array composition according to claim 31, wherein said fluid barrier comprises a physico-chemical surface coating.

36. (New) An array composition according to claim 27, wherein said first and second bioactive agents comprise nucleic acids.

37. (New) An array composition according to claim 27, wherein said first and second bioactive agents comprise proteins.

38. (New) An array composition according to claim 27, wherein said moldable layer is between 50 μm -1 mm in thickness.

39. (New) An array composition according to claim 27, wherein said moldable layer is approximately 1 mm in thickness.

40. (New) An array composition according to claim 27, wherein the rigid structure has optical properties.

41. (New) An array composition according to claim 40, wherein the optical properties are selected from the group consisting of: having low autofluorescence, being transparent, being selectively transparent, being absorptive, being selectively absorptive, being opaque and being reflective.

42. (New) An array composition according to claim 27, wherein the rigid support is composed of a material selected from the group consisting of: aluminum, iron, steel, an alloy, a ceramic, fiberglass, silicon, semiconductor materials, glass, rigid plastics, and rigid polymers.